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# The Living Cosmos of Jainism: A Traditional Science Grounded in Environmental Ethics

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## The Living Cosmos of Jainism: A Traditional Science Grounded in Environmental Ethics

**I**N THE ARISTOTELIAN SYSTEM of defining life, animals are grouped into genus and species. According to Aristotle, "Of animals, some resemble one another in all their parts, while others have parts wherein they differ. . . . By 'genus' I mean, for instance, Bird or Fish; for each of these is subject to difference in respect of its genus, and there are many species of fishes and of birds."<sup>1</sup> For several hundred pages, Aristotle goes on to describe the many particular varieties of animals, providing an encyclopedic collection of information.

Jainism views animals and life itself in an utterly different light, reflecting an indigenous Asian scientific analysis that yields a different definition of the soul, the human person, the structure of the cosmos, and ethics. This alternate vision of reality, as will be explained below, results in the perception of a living cosmos and inspires an ecologically sensitive response on the part of adherents to the Jaina faith.

This essay will focus on two primary aspects of Jaina teachings in light of two contemporary Western ecological thinkers.<sup>2</sup> The first is its unique cosmology, which will be compared to the cosmological insights of contemporary science as presented by Brian Swimme. The second is the Jaina assertion that the seemingly inert, nonsensate world abounds with sensuousness. The Jainas posit that all the myriad living beings, from a clod of dirt or a drop of water to animals and humans themselves, possess one commonality: the capacity for tactile experience. This "living world" perspective will be discussed in light of Thomas

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Berry's call for understanding the earth as a "communion of subjects, not a collection of objects." By animating the universe, the Jaina story of science lends itself to an enhanced personal concern for the larger environment or ecosystem.

The Jaina definition of life extends far beyond the standard dictionary usage of "that property of plants and animals which makes it possible for them to take in food, get energy from it, grow, adapt themselves to their surroundings, and reproduce their kind: it is the quality that distinguishes a living animal or plant from inorganic matter or a dead organism."<sup>3</sup> The Jaina religion holds that the manifold parts of the world, including the elements themselves, contain "touch, breath, life, and bodily strength."<sup>4</sup> This view can lead to a deeper appreciation of human reciprocity with the things of the world through the senses.

#### JAINA COSMOLOGY: A UNIVERSE PERMEATED WITH LIFE

Stories of cosmology ground the human person within the world. They explain the place of the individual within the larger context of social and physical realities. In ancient India, as articulated in the *Rgveda*, the person or *purusa* was regarded as a reflection of the world itself in its great immensity: eyes were said to correspond to the sun; the mind was correlated with the moon; breath with the wind; feet with the earth. This particular cosmology asserts a link between the microphase and the macrophase; by seeing the universe as reflective of and relating to body functions, one sees oneself not as an isolated unit but as part of a greater whole. The Jaina tradition developed a parallel story of the structure of the cosmos, complete with the image of a great female whose body symbolizes the entire system. However, whereas the texts of the early Vedic tradition remain somewhat vague about the place of individual life force in this process, Jainism develops an intricate accounting for the journey of each life force (soul or *jiva*), which is said to be eternal, not created by any deity, and ultimately responsible for its own destiny.

Jainism provides one of India's most thorough attempts to encapsulate a comprehensive worldview or cosmology that

integrates the place of the human person within the continuum of the universe. The philosopher Umasvati, who lived in the second or third century C.E., developed a cosmological system that is accepted by both major branches of Jainism, the Digambaras and the Svetambaras. It attempts to explain the place of the human being in a great continuous reality. Jaina cosmology describes a storied universe in the shape of a female figure. The earthly realm or middle world (*manusya loka*) consists of three continents and two oceans. Animals, including humans, can be found there. Below the earth are seven hells. Above the earth, eight heavenly realms are arrayed. The ultimate pinnacle of the Jaina system, symbolized at the top of the head of the cosmic person, consists of the state of liberation, the *siddha loka*. Human beings who have successfully led a religious life achieve this through the release of all karmic bondage. One cannot attain this state from the heavenly or hellish realms; only through a human birth and a life lived well according to spiritual precepts can this final abode be gained.

According to Umasvati's *Tattvartha Sutra*, 8,400,000 different species of life exist.<sup>5</sup> These beings are part of a beginningless round of birth, life, death, and rebirth. Each living being houses a life force or *jiva* that occupies and enlivens the host environment. When the body dies, the *jiva* seeks out a new site depending upon the proclivities of karma generated and accrued during the previous lifetime. Depending upon one's actions, one can either ascend to a heavenly realm, take rebirth as a human, animal, elemental, or microbial form, or descend into one of the hells as a suffering human being or a particular animal, depending upon the offense committed.

The taxonomy of Jainism, which will be discussed in greater detail below, places life forms in a graded order starting with those beings that possess only touch, the foundational sense capacity that defines the presence of life. These include earth, water, fire, air bodies, microorganisms (*nigodha*), and plants. The next highest order introduces the sense of taste; worms, leeches, oysters, and snails occupy this phylum. Third-order life forms add the sense of smell, including most insects and spiders. Fourth-level beings, in addition to being able to touch, taste, and smell, also can see; these include butterflies, flies, and bees.

The fifth level introduces hearing and is further divided into categories of those nonsentient and sentient. Birds, reptiles, mammals, and humans dwell in this life realm.<sup>6</sup>

Jainism posits a cosmological view that at first glance seems similar to that put forth in Ptolemy's theory of the spheres and Dante's *Divine Comedy*. At the base of this cosmos can be found various regions of hell. In the central realm is the surface of the planet, on which reside the five elements (earth, water, fire, air, space), living beings, and humans. Above this realm extends a sequence of heavenly worlds. At the pinnacle of this cosmos exists a domain of liberated beings who have risen above the vicissitudes of repeated birth in the lower, middle, and higher realms. In spatial orientation and its theory of moral consequences, it seems to evoke Dante's system of hell, purgatory, and heaven. Depending on one's actions, one earns a berth in one of the three domains.

However, if we look more closely at this system, its theories of space, time, and matter are more subtle than may first seem apparent. First, Jainism identifies two primary categories of reality: living and nonliving. Living reality, or *jiva*, is broadly defined as dynamism and suffuses what in precontemporary physics would be considered inert. Each *jiva* is said to contain consciousness, energy, and bliss. Earth, water, fire, and air bodies (which comprise material objects such as wood or umbrellas or drops of water or flickers of flame or gusts of wind) all contain *jiva*, or individual bodies of life force. The category of nonliving "things" includes properties such as the flow of time and space and the binding of matter known as karma or *dravya* onto the *jiva*. The nature of this karma determines the course of one's embodiment and experience. Negative karma causes a downward movement, both in this present cycle of birth and death and in future births. Positive karma releases the negative, binding qualities of karma and allows for an ascent to higher realms, either as a more morally pure human being or as a god or goddess. Ultimately, the Jaina path of purification through its many strict ethical precepts may culminate in joining the realm of the perfected ones, the *siddhas*. These liberated souls have released themselves from all karma, particularly due

to their commitment to total harmlessness (*ahimsa*), and dwell in a state of eternal consciousness, energy, omniscience, and bliss.

In this cosmological system, one's station in life can be understood in terms of one's degree of effort in following ethically correct patterns of life as taught by the Jaina Tirthankaras, or spiritual leaders. The world of nature cannot be separated from the moral order; even a clod of earth exists as earth because it has earned its particular niche in the wider system of life processes. A human's experience includes prior births as various animals, microorganisms, elemental entities, and perhaps as a god or goddess. To see, recognize, and understand the world is to acknowledge one's past and potential future. Though the Jaina insistence on the uniqueness of each individual soul does not lend itself to an ultimate vision of interconnected monism, it nonetheless lays the foundation for seeing all beings other than oneself with an empathic eye. In past or future births, one could have been or could become a life form similar to any of those that surround one in the vast cosmos.

#### THE STORY OF CONTEMPORARY COSMOLOGY

The contemporary story of the universe as told by physicists and cosmologists is complex and varied, requiring an understanding of higher mathematics and a reliance on sophisticated instruments such as electron microscopes and telescopes that penetrate deep into distant galaxies. Though many interpreters of science such as Stephen Hawking and Carl Sagan have summarized various theories about the origins and structure of the universe, few have attempted to create a world of meaning from this raw data. However, Brian Swimme, a noted scientist, has attempted to make sense of the insights of modern physics and examine the implications of this newly discovered world order for human behavior.

In their observations of the behavior of matter and energy, planets and galaxies, Einstein and Hubble calculated that the universe flared into existence some fifteen billion years ago. From that time and point of origin, all things blasted away from one another. The stuff of stars continues to move apart and,

over the course of fifteen billion years, as-yet uncounted galaxies continue to move outward. Simultaneously, everything retains a part of the original being while it continues to move from the point of origin.

Furthermore, the space that separates all these discrete masses of atomic material continues to generate evanescent particulate matter that constantly emerges and then dissolves. Even empty space is not empty but carries what Swimme describes as the "all-nourishing abyss." As he describes it,

The usual process is for particles to erupt in pairs that will quickly annihilate each other. Electrons and positrons, protons and anti-protons, all of these are flaring forth, and as quickly vanishing again. Such creative and destructive activity takes place everywhere and at all times throughout the universe. The ground of the universe then is an empty fullness, a fecund nothingness. Even though this discovery may be difficult if not impossible to visualize, we can nevertheless speak a deeper truth regarding the ground state of the universe. First of all it is not inert. The base of the universe is not a dead, bottom-of-the-barrel thing. The base of the universe seethes with creativity, so much so that physicists refer to the universe's ground state as "space-time foam."<sup>7</sup>

This account of the materiality of the cosmos abounds in mystery, unpredictability, and dynamism. Like the Jaina system of transmutation of life forms, this primal energy constantly seeks new expression.

Both the story of contemporary cosmology and that of Jainism allow for awe and respect for materiality. According to Swimme, our deadened view of the material has led to the blight of consumerism, in which ultimate meaning in life is mistakenly sought in the accumulation of things. This has resulted in lives of loneliness, depression, and alienation. He writes:

Consumerism is based on the assumption that the universe is a collection of dead objects. It is for this reason that depression is a regular feature in every consumer society. When humans find themselves surrounded by nothing but objects, the response is always loneliness. . . .<sup>8</sup>

For Swimme, the remedy for this angst can be found in a rediscovery of awe through appreciation of the intricacy and

beauty of the material world, from the complexity of the meadow to the splendid grandeur of the Milky Way. Swimme writes:

Each person *lives* in the center of the cosmos. Science is one of the careful and detailed methods by which the human mind came to grasp the fact of the universe's beginning, but the actual origin and birthplace is not a scientific idea; the actual origin of the universe is where you live your life. . . . "The center of the cosmos" refers to that place where the great birth of the universe happened at the beginning of time, but it also refers to the upwelling of the universe as river, as star, as raven, as you, the universe surging into existence anew.<sup>9</sup>

In this vision of the human place within the cosmos, each individual, each context holds ultimate meaning in its immediacy and its ongoing participation in the process of co-creation. As centers of creativity, all beings, all particles, play an important, integral role in the greater scheme of things. While retaining a unique and unencroachable perspective, each point of life holds a commonality with all others as a result of their shared moment of origin fifteen billion years ago.

In some ways, this vitalistic account of creation and reality bears similarities to the Jaina tradition, as well as notable differences. The fundamental disagreement lies in the premise that the world began in the single moment of the Big Bang or Flaring Forth.<sup>10</sup> Jainism, like Buddhism, asserts the eternity of the universe and rejects the notion of an initial creation moment. However, just as Swimme contends that the consumerist obsession with "dead" objects leads to depression, in Jainism the abuse and manipulation of materiality leads to a thickening of one's karmic bondage, guaranteeing a lower existence in this and future lives. Swimme suggests that the things of the world be regarded as a celebration of the originary moment of creation, that people turn their attention to the beauty and mystery of creation as an antidote to the trivialization of life brought about by advertisements and the accumulation of material goods. Jainism similarly asserts that things share a commonality in their aliveness, which must be acknowledged and protected. Through respect for life in all its forms, including microorganisms and the elements, one can ascend to a higher state of spiritual sensitivity.



Traditional Jaina cosmology and contemporary scientific accounts of the workings of the universe have implications for the development of ecological theory. Both systems place value on the natural order. Both systems have the potential to evoke the affective dimension of human responsiveness. Both systems develop an ethical view that calls for greater awareness of one's immediate ecological context. Swimme's system offers a prophetic critique of unbridled consumerism and its consequent trivialization and deadening of the material world. Jainism develops a specific code of behavior that seeks to respect the life force in its various forms, including its material manifestations.

Swimme's summary explanations of contemporary cosmology present the central notions of Hubble's cosmological discoveries in a succinct and poignant manner, not unlike the Sutra style employed by Umasvati to provide a Jaina account for the structure of reality. These two systems as presented by Swimme and Umasvati carry an inherent ethical and perhaps teleological message. Swimme explains the universe in an attempt to wrest humans from their blind allegiance to a numbing materialism that regards the things of the universe as dead and inert. Jainism explains the universe through a theology of spiritual liberation. Both provide an occasion to view the world as a living, dynamic process that, in the contemporary context of environmental degradation, requires protection and care. The particularities of Jaina biology might be used to enhance one's sense of the universe as a living process of multiple subjectivities rather than as a chaotic assemblage of inert materiality.

#### THE HIERARCHY OF LIFE IN JAINA TRADITION

The *Acaranga Sutra*, the earliest known Jaina text, describes a world suffused with life. In relating the life story of Mahavira, the twenty-fourth great teacher, or Tirthankara, who lived in the fourth or fifth century B.C.E., the text states that "Thoroughly knowing the earth-bodies and water-bodies, and fire-bodies and wind-bodies, the lichens, seeds, and sprouts, he comprehended that they are, if narrowly inspected, imbued with life."<sup>11</sup> From this perception of the vitality of all things as

articulated by Mahavira, Jainism developed an extensive theory of karma to account for the existence of various life forms. According to Jaina karma theory, each life form will eventually take on a new existence as part of the ongoing process of *samsara*, to be halted only when one, as a human being, attains spiritual liberation (*kevala*).

Mahavira laid out a series of rules to assist one along the path to liberation. These rules were designed to minimize and eliminate karma through a careful observance of nonviolent behavior. Mahavira instructs his monks and nuns to avoid harming life in its myriad forms through various methods. These include explicit instructions for when and what and how to eat; when and how to travel; where and when to defecate; and from whom to accept food, as well as lists of various activities, including attendance at wedding ceremonies, to be avoided.<sup>12</sup> All these rules, as well as the various preferred professions for laypersons, are to be observed in order to prevent harm to living beings. In fact, Mahavira even exhorts his monks and nuns not to gesture or point because “the deer, cattle, birds, snakes, animals living in water, on land, in the air might be disturbed or frightened, and strive to get to a fold or refuge, thinking ‘the Sramana [monk] will harm me.’”<sup>13</sup> This profound respect for the natural world distinguishes Jainism among the world’s religious traditions as potentially the most eco-friendly.

In the second part of the *Acaranga Sutra*, Mahavira addresses his monks and nuns on the topic of forest preservation. This brief meditative advice encapsulates what could be seen as a textual foundation for the development of an activist Jaina environmentalism. It also shows the timelessness of human greed and exploitation of the natural world. Mahavira tells the monks and nuns to “change their minds” about looking at big trees. He says that rather than seeing big trees as “fit for palaces, gates, houses, benches . . . , boats, buckets, stools, trays, ploughs, machines, wheels, seats, beds, cars, and sheds” they should speak of trees as “noble, high, round, with many branches, beautiful and magnificent.”<sup>14</sup> This indicates that Mahavira regarded trees as inherently valuable for their beauty, strength, and magnificence and that he advised his followers to turn their

thoughts from materiality by reflecting on the greater beauty of sparing a tree from the woodsman's ax.

In later Jaina literature, various authors describe the living world with a great deal of care and precision. For instance, Santi Suri, a Svetambara Jaina writer of the eleventh century, provides elegant descriptions of living beings, beginning with the earth beings and concluding with various classes of deities and liberated souls. In the *Jiva Vicara Prakaranam*, a text of fifty verses, he lists types of life and frequency of appearance, and cites an approximate lifespan for each. For instance, he states that hardened rock can survive as a distinct life form for twenty-two thousand years; "water-bodied souls" for seven thousand years; wind bodies for three thousand years; trees for ten thousand years; and fire for three days and three nights.<sup>15</sup> Each of these forms demonstrates four characteristics: life, breath, bodily strength, and the sense of touch.<sup>16</sup>

The attention to detail given to the elemental realm of one-sensed beings distinguishes the medieval Jainas as closely observant scientists. Their descriptions include fundamental information regarding geology, meteorology, botany, and zoology. Santi Suri describes the one-sensed realm with great precision, extending from the earth through water and fire and air to the plant kingdom. For the *Prthivi Kayika Jivas*, or Earth Body Souls, he offers the following description:

Crystalline quartz, jewels, gems, coral, vermilion, orpiment, realgar, mercury, gold, chalk, red soil, five-colored mica, hard earth, soda ash, miscellaneous stones, antimony, lava, salt, and sea-salt are the various forms taken by the earth-body souls.<sup>17</sup>

The numerous types of stone and soil listed indicate that the Jainas were keen observers of geological formations, careful to distinguish the characteristics of color, density, and hardness.

Santi Suri's descriptions of the various forms of water are similarly perspicuous, listing "underground water, rainwater, dew, ice, hail, water drops on green vegetables, and mist as the numerous varieties of Water-bodied Souls."<sup>18</sup> Santi Suri similarly provides an exhaustive list of various forms taken by Fire-bodied Souls: "Burning coals, flames, enflamed cow dung, fire reflected in the sky, sparks falling from a fire or from the sky,

shooting stars, and lightning constitute Agnikaya Jivas.”<sup>19</sup> The various wind bodies are listed as follows: “Winds blowing up, winds blowing down, whirlwinds, wind coming from the mouth, melodious winds, dense winds, rarefied winds are the different varieties of Vayu Kayika Jivas.”<sup>20</sup> Descriptions of various plant genres then follow, with precise detail given for plants with fragrance, hard fruits, soft fruits, bulbous roots, thorns, smooth leaves, creepers, and so forth. Lists are offered to restrict or endorse the use of specific plants, with special attention paid to avoiding undue harm to plants that harbor the potential for even greater production of life forms.

Two-sensed beings, possessing touch and taste, are said to live twelve years and include conches, cowries, gandolo worms, leeches, earthworms, timber worms, intestinal worms, red water insects, and white wood ants, among others.<sup>21</sup> Three-sensed beings live for forty-nine days and include centipedes, bedbugs, lice, black ants, white ants, crab-lice, and various other kinds of insects.<sup>22</sup> These beings add the sense of smell. Four-sensed beings, which add the sense of sight, live for six months<sup>23</sup> and include scorpions, cattle-bugs, drones, bees, locusts, flies, gnats, mosquitoes, moths, spiders, and grasshoppers.<sup>24</sup> At the top of this continuum reside the five-sensed beings, which add the sense of hearing and can be grouped into those that are deemed “mindless” and those who are considered to be sentient. This last group includes the denizens of hell, gods, and humans. Various life spans are cited for five-sensed beings, which Santi Suri describes in great detail: land-going, aquatic, sky-moving, and so forth. The detailed lists by Santi Suri and his later commentators present a comprehensive overview of life forms as seen through the prism of Jainism.

The Jaina worldview cannot be separated from the notion that the world contains feelings and that the earth feels and responds in kind to human presence. Not only do animals possess cognitive faculties including memories and emotions, but the very world that surrounds us can feel our presence. From the water we drink, to the air we inhale, to the chair that supports us, to the light that illumines our studies, all these entities feel us through the sense of touch, though we might often take for granted their caress and support and sustenance.

According to the Jaina tradition, humans, as living, sensate, thinking beings, have been given the special task and opportunity to cultivate increasingly rarefied states of awareness and ethical behavior to acknowledge that we live in a universe suffused with living, breathing, conscious beings that warrant our recognition and respect.

Various authors within the Western biological, philosophical, and psychological disciplines have similarly argued for the possibility that animals possess cognition and that the world itself cannot be separated from our cognition of it. Few have committed themselves to the very radical Jaina notion that the elements possess consciousness, though some environmental thinkers (such as Christopher Stone) have argued for the legal standing of trees. But, as discussed in the following section, Thomas Berry has argued that a heightened responsiveness to the earth is essential for the full development of human consciousness.

THE NEW STORY OF THOMAS BERRY:  
A CALL FOR SENSITIVITY TO LIFE

Thomas Berry has advocated the telling of a new story that allows us to reinhabit the earth with a greater awareness of the fragile balance of life systems. He writes:

The human species has emerged within this complex of life communities; it has survived and developed through participation in the functioning of these communities at their most basic level. Out of this interaction have come our distinctive human cultures. But while at an early period we were aware of our dependence on the integral functioning of these surrounding communities, this awareness faded as we learned, through our scientific and technological skills, to manipulate the community functioning to our own advantage. This manipulation has brought about a disruption of the entire complex of life systems. The florescence that distinguished these communities in the past is now severely diminished. A degradation of the natural world has taken place.<sup>25</sup>

Berry suggests that, with the waning of traditional creation stories and functional cosmologies, we must develop a new story that can effectively replace them and introduce a new

integrated worldview. This worldview must account for the workings of the universe, inspire awe at its grandeur, and prompt the earth's citizens into an appropriate response to enhance the sustainability of the earth. Drawing from the pioneering insights of the Jesuit geologist and theologian Pierre Teilhard de Chardin, Berry suggests an embrace of the cosmological story emerging from the new science. In his focus on the notion of a fixed point of creation and his orientation toward an almost eschatological prophetic voice, Berry's work seems well grounded in the Jewish/Christian/Islamic tradition. Yet in other ways, it is similar to and clearly informed by various aspects of Asian, African, and tribal traditions.

For the past twenty years, Thomas Berry has written and lectured on the topic of the emerging ecozoic age. Taking note of the tremendous harm caused to the environment during the twentieth century, he observes that we have lost touch with the natural world, that we have become callous toward the magnificent universe that supports and nurtures us. During a plenary address to the American Academy of Religion in 1993, Berry stated:

We hardly live in a universe at all. We live in a city or nation, in an economic system, or in a cultural tradition. We are seldom aware of any sympathetic relation with the natural world about us. We live in a world of objects, not in a world of subjects. We isolated ourselves from contact with the natural world except in so far as we enjoy it or have command over it. The natural world is not associated with the very meaning of life itself. It is little wonder that we have devastated the planet so extensively.<sup>26</sup>

The causes of the rift between humans and nature are numerous, layered, and storied. As noted by Lynn White, the religious traditions of the West find their roots in an entrenched anthropocentrism that places emphasis on dominion over nature. As Berry has written, the concern with redemption in Western religious traditions leaves little room for an appreciation of the natural world, which is seen as subsidiary to the interests of human comfort. The exploitive mentality of New World settlement, the rise of industrialization in the eighteenth century, and the explosion of consumerism and technology in

the twentieth century propelled the human into a new relationship with nature. Berry writes:

Here it is necessary to note that planet Earth will never again in the future function in the manner that it has functioned in the past. Until the present the magnificence splashed throughout the vast realms of space, the luxuriance of the tropical rainforests, the movement of the great whales through the sea, the autumn color of the eastern woodlands; all this and so much else came into being entirely apart from any human design or deed. We did not even exist when all this came to be. But now, in the foreseeable future, almost nothing will happen that we will not be involved in. We cannot make a blade of grass, but there is liable not to be a blade of grass unless we accept it, protect it, and foster it.<sup>27</sup>

We have entered into a new phase of Earth-human relations, wherein the human effectively has conquered nature. The now submissive earth relies upon the human for its continuance. The earth has been bruised by the abundance of radioactive waste and the ever-present threat of nuclear conflagration. The sky has been fouled with emissions from automobiles and factories. Human and industrial waste have polluted our rivers and lakes. Life itself has become imperiled.

As this separation takes place, humans lose their intimacy with the natural world and themselves. With this loss of intimacy comes a deadening indifference to the natural world, which results in further exploitation and destruction. To reverse this process, one needs to recapture a sense of beauty and appreciation for the natural world, a sense of the wholly real materiality of things, not for the sake of consumption and manipulation, but for the very being indicated by its presence.

In an earlier study, I explored a comparative analysis between Gaia theory and the Jaina theory of the all-pervasiveness of eternal *jiva*.<sup>28</sup> David Abram, alluding to Gaia theory, similarly suggests that the living-ness of things as articulated by the philosopher Merleau-Ponty in fact has a scientific basis:

We have at least come to realize that neither the soils, the oceans, nor the atmosphere can be comprehended without taking into account the participation of innumerable organisms, from the lichens that crumble rocks, and the bacterial entities that decompose organic detritus, to all the respiring plants and animals

exchanging vital gases with the air. The notion of earthly nature as a densely interconnected organic network—a “biospheric web” wherein each entity draws its specific character from its relations direct and indirect, to all the others—has today become commonplace. . . .<sup>29</sup>

Whether seen as a continuity of interchangeable life forms or as a succession of discrete incarnations, the weblike nature of both contemporary biology and traditional Jaina cosmology merits our attention. Both views require us to see the world as a living, breathing, sensuous reality, from its elemental building blocks of earth, water, fire, and air, through its microbial expressions, right up to its array of complex insects and mammals, including primates. In the Jaina tradition, this has led to a careful observance of the principle of nonviolence (*ahimsa*). In the world of contemporary ethics, it has led to the introduction of animal-rights language, the argument for legal standing for trees, and most recently the Great Ape Project, which advocates that full rights be accorded to chimpanzees, gorillas, and other high-functioning primates.

#### CONCLUSION

Thomas Berry and Brian Swimme propose a new story based on scientific explanations regarding the origin and nature of the universe. In part, this approach depends on a starting point (the Flaring Forth or Big Bang) and the idea of an implied if not explicit sense of teleology. The Jaina system does not include a fixed origin point in either assumed fact or metaphor, but rather assumes the eternality of the world. It will not work as a conventional story, since it has no defined beginning, middle, or probable end. Rather, the Jaina system seeks to sacralize all aspects of worldly existence. By seeing all that surrounds us as suffused with life and worthy of worship, Jainism offers a different sort of picture, one that decentralizes and universalizes ethics, thus taking away overly anthropocentric concerns, and brings into vivid relief the urgency of life in its various elemental, vegetative, and animal forms. The key to Jainism might well be its evocation of immediacy and care, rather than any narrative myth or set of externally imposed ethical values.



At first glance, the Jaina tradition might seem to be inherently ecologically friendly. It emphasizes *ahimsa* (nonviolence). It reveres all forms of life. It requires its adherents to engage only in certain types of livelihood, presumably based on the principle of *ahimsa*. Jainism's earth-friendly attitudes have been celebrated in L. M. Singhvi's *Jain Declaration on Nature*, in Michael Tobias's video *Ahimsa* and its companion volume, *Life Force*, in the proceedings of the Ladnun conference on Ecology and Jainism, and in my own book *Nonviolence to Animals, Earth, and Self in Asian Traditions*. However, if we look at the ultimate intention of the Jaina faith as well as the actual practices of some Jaina business enterprises, we might detect a need for the sort of in-depth critical analysis that Thomas Berry has proposed. For instance, Jainas have long avoided using animal products in their many business operations; lists of "green-friendly" materials could be developed by Jainas to be used in manufacturing processes. The Jaina programs of environmental education could be expanded to prepare future leaders to be more familiar with environmental issues. Jainas could actively support air-pollution reduction initiatives by making certain that their own automobiles in India conform to legal standards.

In some respects, however, environmental activism can win a secondary place at best in the practice of the Jaina faith. The observance of *ahimsa* must be regarded as ancillary to the goal of final liberation, or *kevala*. Ultimate meaning is not found in the perfection of nonviolent (in this case eco-friendly) behavior but in the extirpation of all fettering karma. Although the resultant lifestyle for monks and nuns resembles or approximates an environmentally friendly ideal, its pursuit focuses on personal, spiritual advancement, not on a holistic vision of the interrelatedness of life. In terms of the lifestyle of the Jaina layperson, certain practices such as vegetarianism, periodic fasting, and eschewal of militarism might be seen as eco-friendly. However, some professions adopted by the Jainas as a result of their religious commitment to refrain from harming all but one-sensed beings might in fact be environmentally disastrous, such as strip-mining for granite or marble, unless habitat restoration accompanies the mining process. Likewise, how many Jaina industries contribute to air pollution or forest destruction or

result in water pollution? The development of a Jaina ecological business ethic would require extensive reflection and restructuring.

As Thomas Berry has noted, the task of ecological repair requires an ongoing dialogue between the political, economic, scientific, and religious communities. Adherents of Jainism, given their ethic of nonviolence and their deep involvement with the governmental structures of India and the business community worldwide, are well positioned to initiate such a dialogue. The story of human superiority over nature has been told throughout the world, even by the Jainas who seek to rise above nature. And this story has been realized, as seen in the success of consumer culture worldwide. Native habitats continue to be destroyed as industrialization expands. As this happens, entire species of animals, insects, and plants disappear, never to return. Yet humans proliferate, taking up more space worldwide with their houses and condominiums and farmland, encroaching on and destroying the wild, isolating humans within fabricated landscapes that separate the human from the pulse of nonhuman life.

A shift in consciousness must take place that values life in its myriad forms. Telling a different story may help in bringing about this shift. The cosmological views of Jainism, the insights of contemporary science, and the growing perception of the beauty and fragility of the natural order all can contribute to this essential change in perspective.

#### ENDNOTES

<sup>1</sup>Jonathan Barnes, ed., *The Complete Works of Aristotle* (Princeton, N.J.: Princeton University Press, 1984), 774.

<sup>2</sup>A fuller version of this essay will appear in *Jainism and Ecology*, edited by the author, to be published by the Center for the Study of World Religions, Harvard Divinity School.

<sup>3</sup>Victoria Neufeldt, ed., *Webster's New World Dictionary* (New York: Webster's New World, 1988), 846.

<sup>4</sup>Santi Suri, *Jiva Vicara Prakaranam along with Pathaka Ratnakara's Commentary*, ed. Muni Ratna-Prabha Vijaya, trans. Jayant P. Thaker (Madras: Jain Mission Society, 1950), 163; hereafter abbreviated as JVP.

<sup>5</sup>Umasvati, *That Which Is (Tattvartha Sutra): A Classic Jain Manual for Understanding the True Nature of Reality*, trans. Nathmal Tatia (San Francisco: HarperCollins, 1994), 53.

<sup>6</sup>Ibid., 45–46.

<sup>7</sup>Brian Swimme, *The Hidden Heart of the Cosmos: Humanity and the New Story* (Maryknoll, New York: Orbis Books, 1996), 93.

<sup>8</sup>Ibid., 33.

<sup>9</sup>Ibid., 112.

<sup>10</sup>See Brian Swimme and Thomas Berry, *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era: A Celebration of the Unfolding of the Cosmos* (San Francisco: HarperSanFrancisco, 1992).

<sup>11</sup>*Jaina Sutras, Part I: The Akaranga Sutra, The Kalpa Sutra*, trans. Hermann Jacobi (New York: Dover, 1968; 1st ed., 1884), I:8.I.11–12; hereafter abbreviated as AS.

<sup>12</sup>See R. Williams, *Jaina Yoga: A Survey of the Mediaeval Sravakacaras* (London: Oxford University Press, 1964).

<sup>13</sup>AS, II:3.III.3.

<sup>14</sup>AS, II.4.2.11–12.

<sup>15</sup>JVP, 34.

<sup>16</sup>Ibid., 163.

<sup>17</sup>Ibid., 24.

<sup>18</sup>Ibid., 26.

<sup>19</sup>Ibid., 28.

<sup>20</sup>Ibid., 33.

<sup>21</sup>Ibid., 66.

<sup>22</sup>Ibid., 69–70.

<sup>23</sup>Ibid., 144.

<sup>24</sup>Ibid., 71.

<sup>25</sup>Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988), 164.

<sup>26</sup>Thomas Berry, “Religion in the Ecozoic Era,” plenary address to the American Academy of Religion, Washington, D.C., 1993, 2.

<sup>27</sup>Ibid., 18.

<sup>28</sup>Christopher Key Chapple, *Nonviolence to Animals, Earth, and Self in Asian Traditions* (Albany, N.Y.: State University of New York Press, 1993), chap. 4.

<sup>29</sup>David Abram, *The Spell of the Sensuous: Perception and Language in a More-Than-Human World* (New York: Pantheon Books, 1996), 85.